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ABSTRACT

This study of interpersonal attraction and perception attempts to analyze the effects of co-operative versus competetive behavior and social position. Findings from the research project reveal that there exists a positive relationship between attraction and co-operation. Character extrapolations reinforce the theory of rationalization for an unjust system of social position by a "Blaming the Victim" syndrome. (MML)

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INTERPERSONAL ATTRACTION IN A SEVEN-PERSON MIXED-MOTIVE GAME: NOBODY LIKES A LOSER

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INTRODUCTION AND STATEMENT OF PROBLEM

Since Luce and Raiffa (1957) introduced the Prisoner's Dilemma game (PD) as an instrument for use in the behavioral sciences, researchers have used the game in a variety of ways. The original game has been modified, expanded, decomposed, and transformed (e.g., Bixenstine, Levitt & Wilson, 1966; Gallo & McClintock, 1965; Pruitt, 1967). Gallo and McClintock (1965) concluded that the PD ". . . provides an excellent framework within which problems of motivation, decision-making, personality, and perception of persons can be studied."

Kelley & Grzelak (1972) proposed an expansion of the game which would allow the study of social interdependence within a small group. Their experimental paradigm dealt with the problem of responsibility within a situation involving the use of common and limited resources. Caldwell's (1976) example of such a problem is interesting and instructive:

> "The commons problem occurs when each person individually gains by purusing a course of action that results in a minor decrement to everyone's outcomes. An example would be standing on tiptoe to watch a parade or football game. Regardless of what others do, standing on tiptoe will produce a better view. However, if all stand, the view degenerates and all get aching muscles."

Parades, and to a lesser extent Football games, often provide "equal opportunity" to viewers; however, more significant commons problems occur within the context of an unequal distribution of wealth, power, and opportunity.

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The present paper reports on the initial use of a Multilevel Prisoner's Dilemma-type game. The emphasis of the present experiment was not to investigate various parameters of the game itself, but to employ it as a tool in the study of interpersonal attraction.

In the present experiment both game strategy and payoff matrix were manipulated within the context of a seven-person PD-type game. As in the two-person (PD) game, each player made a series of choices between "cooperative" and "competitive" responses. Payoffs were determined by the number of players making each choice as well as the specific level of payoff assigned to each player. (See Figure 1) Three different levels of the payoff matrix were employed to simulate an environment in which opportunity for rewards was not equal. Figure 1 illustrates the fact that players assigned to Level 3 had the opportunity to gain significantly greater rewards than players in Level 2. Players in Level 1 were severely "disadvantaged" having a limited possibility of accumulating significant rewards.

Previous research has shown a positive correlation between liking and cooperation (Ettinger & Kriner, 1971); however, it was expected that the present design would produce an interaction between strategy (Cooperative-Competitive) and level of payoff. My initial expectations were that within levels there would be little difference between the ratings of cooperative and competitive others, but that cooperative others in other levels would be liked significantly more than Competitive others in the same level. In addition I expected to find the greatest difference in the condition in which persons receiving the lowest payoffs were rating those receiving the highest payoffs.

METHOD

Subjects

Twenty-four male undergraduate students who responded to a campus appeal

for persons interested in participating in a research project involving the possibility of winning money were employed as Ss.

Apparatus

The apparatus consisted of a partitioned experimental room, eight subject response consoles and an experimenter's control console. Subjects were visually isolated from each other. Each S was seated at a table which was equipped with a response console containing two response buttons and six sets of indicator lights which purportedly indicated the responses of the other players. The sets of lights were labeled "Person A","Person B", etc.

The experimenter's control console was equipped with eight sets of lights corresponding to the eight subjects. Six control switches permitted E to pre-set each other player's response. A pushbutton allowed E to present all player's responses simultaneously, and a reset button cleared all displays. (NOTE: Although the apparatus handles eight persons, for design purposes Ss were led to believe that only six others were participating.)

Procedure and Experimental Design

As they arrived, subjects were seated in cubicles containing the response consoles. Copies of the payoff matrix (Figure 1) were distributed and explained as follows:

> "The object of this exercise is to gain as many points as you can. At the end of the game you will be awarded 1¢ for every point you have accumulated."
>
> "Here's how the game works. The response console in front of you has two push-buttons and seven indicator lights. If you push the button adjacent to the green light, your green light will be illuminated and when everyone has pushed one of the two buttons -- their responses will be indicated on your panel."
>
> "Your job is to select a button which will give you the highest payoff. For example, assume you are assigned to Level 3. Does everyone see the row of numbers adjacent to Level 3? If all of you push the button corresponding

to your green light, each of you will receive 15 points. Does everyone see that? If six of you choose green and one chooses red, the six choosing green will receive 10 points and the one choosing red will receive 60 points. At the extreme right -- if all of you choose red, all will lose 10 points. Are there any questions?"

"What if you were assigned to Level 1 and were one of 4 people choosing green, what would your payoff be? 3 points. Does everyone see that?"

"Okay, let's try a few practice trials. Just push one of the buttons. We'll calculate the scores, but these practice trials will not count toward your total. Are there any questions?"

Subjects were then informed that they had been randomly assigned to one of the three levels. They were given tally sheets and instructed to record the responses and payoffs for themselves and each other player as the game progressed. An assistant was present to help anyone who had difficulty. At the conclusion of twenty trials totals were calculated and subjects were asked to complete an evaluation of each other player. The evaluation instrument contained three Likert-type rating scales (see Ettinger, Nowicki & Nelson, 1970) which were summed to provide the measure of attraction. Subjects were interviewed and dehoaxed following the completion of the questionnaire. All subjects received $4.00 (the maximum possible total for Level 3).

In each of the three experimental conditions, each subject was assigned to a level purportedly containing two other players, thus each subject observed the responses (strategy) of two other players in each level including his own. Responses of the other players were experimentally manipulated such that one of the other players at each level played a cooperative (75% green) game, and one played a competitive (25% green) game. (Other players' responses were sequenced in such a fashion that there were always 3 green and 3 red responses). This produced a 3 x 3 x 2 design (Payoff Level of subject x Payoff Level of other players x Strategy of other players) with repeated measures on the last two factors.

Results

Referring to the major dependent variable, attraction, the main effect of strategy of other players was significant (F (1,21) = 5.84), $p < .05$). Cooperative others were liked better than competitive others. The expected interaction between Payoff Level of Subjects and Strategy of Other did not approach significance ($F<1$); however, Payoff Level of Other Players was significant (F (2,42) = 7.50, $p < .01$). Subjects in the highest payoff levels (2&3) indicated greatest attraction toward other players in their own levels and least attraction toward other players in Level 1 (low payoff). Unexpectedly Level 1 subjects indicated greatest attraction toward other players in the highest level and provided lowest ratings for other players in their own level. Thus, all experimental groups indicated lowest attraction toward Level 1 players.

In the post-experimental interview none of the subjects revealed suspicion that the responses of the other players were experimentally manipulated. Most of the subjects indicated that they enjoyed the game and would like to continue playing; however, a majority of the subjects assigned to Level 1 stated that they would continue only if they were reassigned to another level.

The number of cooperative responses within each of the experimental conditions did not differ significantly (the mean number of cooperative responses for each level were: Level 1 = 7.88, Level 2 = 8.12, Level 3 = 7.75).

CONCLUSIONS

The results obtained provide general support for a positive relationship between attraction and cooperation. In accordance with the nature of the Payoff matrix each subject's score increases as the number of cooperative responses increases. According to Lott & Lott (1968) persons who experience reward will learn to like others who are consistently associated with that reward. Thus increased payoffs may be associated with others responding cooperatively producing greater liking.

Interestingly, however, subjects receiving the lowest scores (Level 1) produced the greatest differentiation between cooperative and competitive others. A simplistic learning theory model, assuming that the monetary rewards represented by the Payoff Matrix were the only salient rewards in operation, would have predicted an even greater differential between cooperative and competitive others within all experimental conditions. In addition, greater overall attraction ratings should have been granted by those assigned to the highest Payoff Level. Finally, Payoff Level of Other should have had no effect due to its lack of relationship to the rewards received by each subject. Although a learning theory approach did not receive total support it would be naive to assume that the Payoff Matrix defined the only salient rewards in operation.

The major unexpected finding was the consistent low evaluations given to players assigned to the lowest level of the payoff matrix. Despite the fact that assignments to Payoff Levels were random, other players in the lowest Payoff Level received the lowest attraction ratings. Subjects assigned to the lowest Payoff Level rated competitive others from the highest payoff level more attractive than cooperative others from their own Payoff Level.

Because the data cannot be handled within the learning theory model originally proposed, I have chosen to tread on the dangerous ground of overextrapolation. It seems possible that subjects behaved in a fashion similar to that described by Ryan (1971) in his book, Blaming the Victim. The inequality of opportunity inherent in the Payoff Matrix resulted not only in low payoffs, but in low attraction ratings. Ryan's concept has been employed to describe an elaborate network of rationalization which allows us to live within an unjust system:

> "The generic process of Blaming the Victim is applied to almost every American problem. The miserable health care of the poor is explained away on the grounds that the victim has poor motivation and lacks health information."

Perhaps subjects in the highest levels (2&3) were simply attempting to justify the inequality of the low payoffs of the Level 1 group by indicating that such people were not attractive. It is plausible that the inequality of opportunity associated with Level 1 payoffs produced a certain amount of frustration which resulted in Level 1 subjects blaming their fellow victims.

The learning theory and Blaming the Victim interpretations are not necessarily mutually exclusive. They are explorations drawn from two distinctly different approaches to social phenomenon. At this point it seems premature to attempt to interpret the data within a comprehensive theoretical framework. Some interesting questions have been raised, and further research is definitely necessary.

This initial research provides support for the potential utility of the multilevel, mixed-motive game in experimental simulations involving social problems and unequal opportunity. Had the present game been played longer, an analog of boredom and alienation may have been produced within Level 1. The simulation of the "commons" problem might become more realistic with a multilevel game.

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TABLE I

MEANS AND STANDARD DEVIATIONS OF ATTRACTION RATINGS

Other Players	Payoff Levels for Subjects 1	2	3
Payoff Level 1			
Cooperative	11.88 (3.72)	13.12 (2.10)	11.50 (2.78)
Competitive	8.00 (3.81)	11.88 (2.75)	12.00 (3.66)
Payoff Level 2			
Cooperative	13.12 (3.68)	16.75 (2.43)	14.38 (2.00)
Competitive	11.38 (4.56)	15.56 (2.74)	14.50 (1.31)
Payoff Level 3			
Cooperative	13.31 (4.08)	12.62 (5.10)	16.88 (2.30)
Competitive	12.75 (4.46)	12.62 (6.10)	13.12 (3.56)

FIG. 1 PAYOFF MATRIX

	7 green 0 red	6 green 1 red	5 green 2 red	4 green 3 red	3 green 4 red	2 green 5 red	1 green 6 red	0 green 7 red
LEVEL 3	15 --	10 60	7 40	6 30	5 20	4 10	3 5	-- -10
LEVEL 2	15 --	7 25	6 20	5 12	4 7	3 5	2 4	-- -10
LEVEL 1	15 --	5 12	4 9	3 6	2 3	1 2	0 1	-- -10

Each point equals one cent.